

JON M. HUNTSMAN, JR. Governor

GARY R. HERBERT Lieutenant Governor

Department of Administrative Services

KIMBERLY K. HOOD Executive Director

Division of Facilities Construction and Management DAVID G. BUXTON Director

ADDENDUM No. 2

Date: January 26, 2009

To: **Short-Listed Contractors**

From: Brian Bales, Project Manager, DFCM

Reference: POST Academy Reuse for State Mail and UCAT Offices

Rampton Complex

DFCM Project No. 07030550

Subject: Addendum No. 2

Pages Addendum Cover Sheet 1 page

Architect's Addendum Total

Note: This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

- 2.1 **SCHEDULE CHANGES:** No schedule changes.
- 2.2 **GENERAL ITEMS:** Architect's Addendum containing general, specification, and drawing clarifications.



JRCA Architects 577 South 200 East Salt Lake City, Utah 84111 (801) 533-2100 Phone (801) 533-2101 Fax www.ircadesign.com

Addendum No. 1

DATE: January 26, 2009

PROJECT: Post Academy Reuse Project For State Mail and UCAT Offices

Rampton Complex DFCM Project #07030550

OWNER: DFCM

State of Utah

ARCHITECT: JRCA Architects

577 South 200 East Salt Lake City, Utah 84111

Incorporate the following revisions to the Specifications, Drawings and other Contract Documents of the above named project. General Items are not referenced. Revisions to the Specifications are referenced by section, page number, and paragraph number. Revisions to the Drawings are referenced by drawing sheet number. This addendum forms part of the Construction Documents.

The end of this Addendum is indicated by the note "END OF ADDENDUM". Attachments are located at the end of the Addendum and are referenced in the Addendum.

GENERAL ITEMS:

Item Section or No. Sheet No. 1-1

Description

Prior Approvals: The below named alternate equipment manufacturers stand approved in name only. Approval here in no way relieves the supplier from complying with all other engineering, weight spatial, and quality requirements of equipment indicated in the contract documents. Contractors using products from the above named alternate manufacturers shall provide additional engineering and are responsible for alternate equipment location, coordination, and sizing configuration.

No.	Product Type	Alternate Manufacturers
1	Thermometers	Weksler, Flo Fab
2	Pressure Gauges	Weksler, Flo Fab
3	Vibration and Seismic Control	Vibro-Acoustics
4	Flexible Ducts	Thermaflex, Hart & Cooley
5	Condensing Boilers	Thermal Solutions, Patterson Kelley
6	Fan Coil Units	Enviro-tec, Williams, Titus, McQuay, Magic Aire
7	Variable Frequency Drives	Saftronics, Cerus Ind.
8	Manual Dampers	Greenheck, Leader Ind.
9	Special Gas Vents	Van Packer, Hart & Cooley
10	Screw Chiller	McQuay, Dunham Bush
11	Humidifiers	Neptronic, Pure, Carel-UR
12	Duct Free Splits	Daikin AC
13	Gravity Ventilators	Greenheck
14	Plate and Frame Heat Exchangers	AIC, Flo Fab, Flatplate
15	Water Heaters	Raypak
16	Flowmeters	Flow Design
17	Backdraft/Pressure Relief Dampers	Leader Industries
18	Control Dampers	Leader Industries
19	Breechings, Chimneys, and Stacks	Schebler Chimney
20	Tubular Infrared Heaters	Combustion Research
21	Cooling Tower	Evapco, Tower Tech

22	Expansion Tanks	Flo Fab
23	Air Separators	Flo Fab
24	Pumps	Flo Fab
25	Hydronic Specialties	Flo Fab

	FICATION ITEMS:												
Item <u>No.</u>	Section or Sheet No.												
1-2	013233	Add atta	ached specifica	tion section 013233	3 - Photographic Do	cumentation in its e	ntirety.						
1-3	098413	Add atta	ached specifica	tion section 098413	3 - Acoustical Wall F	Panels in its entirety	•						
1-4	024119	Page 7: Add Pai "3.8	Add Paragraph 3.8 as follows:										
1-5	087111	Change "2. Jami	item 2 as follo	uators (hard wired);	3., item 2.: stainless" to "2. J	amb mounted actua	tors						
1-6	087111		Paragraph 2.1 m: <i>"C. Operati</i> c										
1-7	087111	Page 12	2, Group 1: Add	Door 223A									
1-8	087111	Page 15	5, Group 11: A	dd Door 114A									
1-9	087111	Page 14	I, Group 7: Om	it Door 129A. Add [Door 127A								
1-10	087111	Page 17	7, Group 17: O	mit Door 114B									
1-11	087111	Change "Group 1 each	6, Group 13: Group 13 to th #13: 130A, 130 Cylinder	DB Medeco									
			Hinges	McKinney	T4B33386	4 1/2"x4 ½"	32D						
			Door Plate	Hager	193S 230W	10"x2" LDW	32D 26D						
		2 each 2 each	Closer	Hager LCN	4040	Cush-N-Stop 90 degree	Silver						
		1 each	Exit Device	Von Duprin	RX2E9827-L-F	Request to Exit	Clear. Anod.						
		1 each	Power Supply	Von Duprin	PS861K		7 11700.						
		2 each	Flush Bolt Bolt Strike	Hager Hager	282D 280X	12 inch	26D 26D"						
1-12	095113	•	Paragraph 3.6 . HHF497 Cert	i, sub-paragraph A. ainteed"	, item 1.:								
1-13	095113		ere 2'x2' Type 1		graph B. as follows: ed, provide acoustic		g with the						

- 1. Product: Provide one of the following:
 - A. Ultima Tegular; Armstrong.
 - B. Ecophone Gedina E; Certainteed.
 - C. Approved Equal (Must match Type 2 panels in appearance)
- 2. Color: White
- 3. Light Reflectance Coefficient: Not less than LR 0.84.
- 4. Noise Reduction Coefficient: NRC 0.70 to 0.85.
- 5. Edge Detail: Beveled tegular or reveal edge.
- 6. Thickness: Not less than 9/16 inch.
- 7. Size: 24 by 24 inches.

1-14 095113

Page 7, Paragraph 3.6. Replace sub-paragraph C. as follows:

"B. Where 2'x2' Type 2 panels are indicated, provide acoustical panels complying with the following:

- 1. Product: Provide one of the following:
 - A. Ultima Vector; Armstrong. (MUST INSTALL FROM BELOW GRID)
 - B. Ecophone Focus DG; Certainteed. (MUST INSTALL FROM BELOW GRID)
 - C. Approved Equal (Must match Type 1 panels in appearance & MUST INSTALL FROM BELOW GRID)
- 2. Color: White
- 3. Light Reflectance Coefficient: Not less than LR 0.85.
- 4. Noise Reduction Coefficient: NRC 0.70 to 0.80.
- Edge Detail: Vector or Semi-concealed edge (MUST INSTALL FROM BELOW GRID).
- 6. Thickness: 3/4 inch.
- 7. Size: 24 by 24 inches.

1-15 095113

Page 7, Paragraph 3.6, sub-paragraph D., item 1.:

Add: "C. 1200 Series Heavy Duty Grid, Chicago Metallic"

1-16 105113

Page 4, Paragraph 2.3, sub-paragraph B.:

Add: "11. ASI Storage Solutions"

1-17 230993

Add attached specification section 230993 SEQUENCE OF OPERATIONS in its entirety.

DRAWING ITEMS:

Item	Section or
<u>No.</u>	Sheet No.

Description

1-18 GI001

Add the following GENERAL NOTES:

"1. Scope

The contractor shall study the project plans and specifications prior to bid to fully understand the scope of work. Prior to bid, it is the contractor's responsibility to understand the details and scope of any subcontracted work and the costs associated with the performance of work by subcontractors.

<u>2. Contract documents</u>: DFCM will provide one (1) set of printed plans and specifications to the contractor. The contractor will be required to provide additional printed sets as needed for construction.

3. Risk

The contractor shall identify risks for the project.

4. General Conditions

Prior to bidding this project, the contractor shall review the DFCM General Conditions paying special attention to the following articles.

- a. 4.1.5 Intent and hierarchy
- b. 4.2.2 Responsibility
- c. 6 Protection of persons and property

5. Demolition

The contractor is solely responsible to determine the means and methods for demolition. Adequate safety for personnel and property shall be provided. If required, temporary shoring, bracing and protection shall be provided. Due to the scale of the drawings, it is impossible to show the impact of every demolished surface on surrounding surfaces and

structures. It is the contractor's responsibility to identify the extent and cost of repair work for surfaces that adjoin and are indicated to remain in place. Those costs shall be included in the contractors bid.

6. Or Equal Products

When the project has been designed with a specified manufacturers products and "or equal" products are allowed, all or equal products shall be equivalent in performance, color and physical characteristics. Products that do not meet these criteria will be considered to be a lower quality or lower cost product and will not be considered. It is the contractor's responsibility to insure prior to bid that all "or equal "products meet the stated criteria and specific project requirements. This includes products supplied by subcontractors.

7. ADA Accessibility

the owner."

For remodel and improvement projects in existing buildings, providing correct ADA compliance is a coordinated effort between the architect and the contractor. During the construction phase, the contractor shall coordinate closely with all trades so as to meet the requirements of the drawings and specifications. The contractor shall insure that all ADA required dimensions are maintained after the final finishes are applied. The contractor shall closely monitor the toilet stub ups and tile wall build up thickness. The contractor shall use the designed float or bust allowances to maintain the correct ADA requirements. Where the plans do not provide enough float or bust allowance, it shall be brought to the attention of the A/E before proceeding with ADA aspects of the project.

8. Bid Plans and Specifications
The final bid set of plans and specifications were provided at the pre-bid meeting. It is the contractor's responsibility to insure that the bid is based on the plans and specifications provided at the pre-bid. All contractors have acknowledged receipt of the final bid plans at the mandatory pre- bid meeting.

9. Existing sidewalks
The contractor is cautioned that the sidewalks have a limited load bearing capability. The contractor shall not drive heavy equipment on the sidewalks. Damage to the sidewalks or landscaping shall be repaired by the contractor at no cost to

1-19	L101	Replace sheet L101 in its entirety with attached sheet L101.
1-20	L102	Replace sheet L102 in its entirety with attached sheet L102.
1-21	C1	Replace sheet C1 in its entirety with attached sheet C1.
1-22	DP101	Add General Note #9 as follows: "9. Contractor shall not assume salvage value for toilets (including flush valves) shown on plan. DFCM reserves the right to remove any or all of the existing toilets (including flush valves) prior to construction."
1-23	DP101	Add note to Room 125 as follows: "Existing carpet adhered to all walls to be removed"
1-24	DP101	Add note to Room 128 as follows: "(3) existing 4x12 chalkboards located on N. wall to be removed. (1) existing 4x12 chalkboard located on W. wall to be removed. Patch and repair wall behind chalkboard."
1-25	DP101	Add note to Room 125 as follows: "(1) existing 4x8 chalkboard located on N. wall to be removed. (1) existing 4x12 chalkboard located on S. wall to be removed. (1) existing 4x12 chalkboard located on E. wall to be removed. Patch and repair wall behind chalkboard."
1-26	DP101	Add note to Room 129 as follows: "Existing access floor frame system to be removed"
1-27	DP101	Add note to north wall of Room 129 as follows: "(5) 4 foot by 8 foot signs located high on wall to be removed. Patch and repair wall"
1-28	DP101	Add note to Room 128 as follows: "All existing demountable partitions to be removed"

1-29	DP102	Add GENERAL NOTES #9 & #10 as follows: "9. Contractor shall not assume salvage value for toilets (including flush valves) shown on plan. DFCM reserves the right to remove any or all of the existing toilets (including flush valves) prior to construction. 10. Existing 1 ½ inch lightweight concrete underlayment to be removed (sawcut) only in as required to facilitate work. DO NOT CUT WOOD FLOOR SHEATHING. Coordinate exact locations of demolition with all trades. Coordinate exact locations with details D4/SE504, E3/SE504, D2/SE503. Infill removed areas with hydraulic cement underlayment"
1-30	DP103	Add note to Room 125 as follows: "Existing ceiling system to be removed"
1-31	AE101	Change KEY NOTE #38 as follows: "38. Infill existing opening in existing wall behind existing mechanical unit with 1 ½ inch metal studs at 12 inches o.c. w/ 5/8 inch gyp. bd.; patch and repair wall behind unit."
1-32	AE102	Add GENERAL NOTE #4 as follows: "4. Infill all voids in existing 1 ½ inch lightweight concrete underlayment resulting from demolished walls and other demolition activities with hydraulic cement underlayment."
1-33	AE451	A2/AE451; Change stair width dimension from 3'-6" to 3'-8" CLR at two locations.
1-34	AE451	B2/AE451; Change stair width dimension from 3'-6" to 3'-8" CLR at two locations.
1-35	AE521	E3/AE521; Replace detail E3/AE521 in its entirety with attached detail E3/AE521.
1-36	AE601	DOOR AND FRAME SCHEDULE: Door 145A: Change size to:2'-6" x 7'-0"
1-37	AE601	ROOM FINISH SCHEDULE: Room 125: Change N, E, S, W walls from "W1" to "W3". Room 136: Change N & W walls from W1 to W3.
1-38	AE601	Add the following to the WALL FINISH legend: "W3: CONT. ½ INCH THICK PLYWOOD SHEATHING (EXTERIOR GRADE B-C) ATTACHED WITH MECHANICAL FASTENERS @ 16 INCHES O.C. CONT. EACH WAY TO EXISTING MASONRY OR OTHER SUBSTRATE. EXTEND PLYWOOD FULL LENGTH OF WALL AND FULL HEIGHT OF WALL TO 6" ABOVE SCHEDULED CEILING. INSTALL 4X8 SHEETS VERTICALLY. MINIMUM PANEL WIDTH TO BE 3 FEET OR LENGTH OF WALL, WHICHEVER IS GREATER. PAINT PLYWOOD PANELS. FASTENER TYPE TO BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION"
1-40	SE201	Change KEY NOTES #1 and #2 as follows: Change detail reference from "A2 A/SE504" to "E3 A/SE504"
1-41	SE201	Change KEY NOTE #3 as follows: Change detail reference from "A2 B/SE504" to "E3 B/SE504"
1-42	SE502	Replace detail 4/SE502 with attached detail 4/SE502.
1-43	MD101	Add Note: "After demolishing existing heat pumps, cap existing exterior wall louver with sheet metal and 2" rigid insulation (cap on backside of louver)."
1-44	MD102	Add Note: "After demolishing existing heat pumps, cap existing exterior wall louver with sheet metal and 2" rigid insulation (cap on backside of louver)."
1-45	MD102	Add Note:

		Storage Room 202) cap existing exterior wall louver with sheet metal and 2" rigid insulation (cap on backside of louver)."
1-46	MD102	Add Note: "Do not demolish gooseneck penetrating roof off heat recovery unit in Mechanical Room 230. Cut ductwork off at roof deck and cap with sheet metal and 2" rigid insulation (cap to be watertight)."
1-47	MD102	Add Note: "Demolish existing rooftop exhaust fan serving heat recovery unit above Storage Room 202. Cap ductwork after 90 degree elbow. Cut interior ductwork off at roof deck and cap with sheet metal and 2" rigid insulation (cap to be watertight)."
1-48	MD102	Add Note: "Do not demolish gooseneck penetrating roof off existing heat pumps. Do not demolish flue penetration off existing boiler. Cut ductwork off at roof deck and cap with sheet metal and 2" rigid insulation."
1-49	MD103	Add Note: "Demolish existing rooftop exhaust fan serving heat recovery unit above Storage Room 202. Cap ductwork after 90 degree elbow. Cut interior ductwork off at roof deck and cap with sheet metal and 2" rigid insulation (cap to be watertight)."
1-50	MH103	Add Note: "Locate and demolish existing rooftop curb-mounted exhaust fan (located near gridline 3 between A and B) Cap the existing cur with sheet metal flashing and 2" of rigid insulation."
1-51	MH401	1/MH401; Add note to (2) W10x45 steel beams as follows: "Steel beam assemblies to be hot dip galvanized."
1-52	MH601	Add motorized damper to EF-1 See revision on attached sheet MA-1.
1-53	MH602	Add motorized dampers to ALL Gravity Intake Ventilators.
1-54	MH701	Replace sheet MH701 with attached sheet MH701.
1-55	EE001	SYMBOL LEGEND: Add detail references 3/EP601 and 4/EP601 to "DROP CORD" symbol.
1-56	EE001	SYMBOL LEGEND: Add detail reference 5/EP601 to "PT#" symbol. Add detail reference 6/EP601 to "FB#" symbol.
1-57	EP101	KEYNOTE #5; Add the following note to Keynote #5: "Provide two separate runs of 3000 Wiremold, one for power and one for data/communications, mounted one above the other, with the outlets as shown mounted in/on the face of the 3000 Wiremold. The risers from each individual run shall run to the ceiling on opposite sides of the room as illustrated on the plans."
1-58	EP101	Room 128; Change the Conductor and Conduit Call-outs at (4) "OFE-15" (Docu-Tech 6135) from "6" to "2 (4-#6 w #10 Ground)".

Room 123; Change the Conductor and Conduit Call-outs at (2) "OFE-17" (Docu-Color)

Room 131; Change the Conductor and Conduit Call-outs at (1) "OFE-4" (B&H Mail Scan)

Room 131; Change the Conductor and Conduit Call-outs at (1) "OFE-5" (B&H Mail Scan)

from "6" to "2 (4-#6 w #10 Ground)".

from "6" to "2 (4-#6 w #10 Ground)".

from "6" to "2 (4-#6 w #10 Ground)".

1-59

1-60

1-61

EP101

EP101

EP101

"After demolishing existing heat recovery units (in Mechanical Room 230 and above

1-62	EP101	Add the following GENERAL NOTE: "All voice/data stubs are to the cable tray."
1-63	EP102	Add the following GENERAL NOTE: "All voice/data stubs are to the cable tray."
1-64	EP603	Add attached panel schedule: PANEL 2PPA
1-65	EP601	Add attached details: "Detail 3: DATA DROP CORD DETAIL" "Detail 4: POWER DROP CORD DETAIL" "Detail 5: FIRE RATED POKE-THRU PT" "Detail 6: FLOOR BOX FB3AV"
1-66	ET101	Add Note: "Keynote #2 only pertains to cable tray running along east wall of Room 131, to accommodate the data communications stubs from the first and second floor areas further to the ease (ie. All office areas, etc.)"

END OF ADDENDUM

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.

1.3 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within three days of taking photographs.
 - 1. Digital Camera: Minimum sensor resolution of 5 megapixels.
 - 2. Format: Minimum 1600 by 1200 pixels, 400 dpi minimum, in unaltered original files, with same aspect ratio as the sensor, uncropped, date- and time- stamped, in folder named by date of photograph, accompanied by key plan file.
 - 3. Identification: Provide the following information with each image description in file metadata tag:
 - a. Name of Project.
 - b. Name and contact information for photographer.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Date photograph was taken.
 - f. Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - g. Unique sequential identifier keyed to accompanying key plan.

1.4 QUALITY ASSURANCE

- A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.
- B. Web-Based Photographic Documentation Service Provider: A firm specializing in providing photographic equipment, Web-based software, and related services for construction projects, with record of providing satisfactory services similar to those required for Project.

1.5 COORDINATION

A. Auxiliary Services: Cooperate with photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs.

1.6 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

2.1 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 5 megapixels, and at an image resolution of not less than 1600 by 1200 pixels and 400 dpi.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

- A. Photographer: Engage a qualified photographer to take construction photographs.
- B. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
 - 1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
 - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect.
- D. Preconstruction Photographs: Before commencement of demolition, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.
- E. Periodic Construction Photographs: Take photographs monthly, coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- F. Architect-Directed Construction Photographs: From time to time, Architect will instruct photographer about number and frequency of photographs and general directions on vantage points. Select actual vantage points and take photographs to show the status of construction and progress since last photographs were taken.

END OF SECTION 013233

SECTION 098413 - ACOUSTICAL WALL PANELS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes back-mounted acoustical wall panels.
- B. Related Sections include the following:
 - 1. Division 09 Section "Acoustical Panel Ceilings" for acoustical ceiling panels supported by exposed suspension system and tested for noise reduction.
 - 2. Division 09 Section "Acoustical Tile Ceilings" for acoustical ceiling tiles supported by concealed suspension system and tested for noise reduction.

1.3 DEFINITIONS

A. NRC: Noise reduction coefficient.

1.4 SUBMITTALS

- A. Product Data: For each type of panel edge, core material, and mounting indicated.
- B. Shop Drawings: For acoustical wall panels. Include mounting devices and details; details at panel head, base, joints, and corners; and details at ceiling, floor base, and wall intersections]. Include elevations showing panel sizes and direction of fabric weave and pattern matching. Indicate panel edge and core materials.
- C. Samples for Initial Selection: For each type of fabric facing material from acoustical wall panel manufacturer's full range.
- D. Samples for Verification: For the following products. Prepare Samples from same material to be used for the Work.
 - 1. Panel Edge: 12-inch- (300-mm-) long Sample showing edge profile, corner, and finish.
 - 2. Core Material: 12-inch- (300-mm-) square Sample showing corner.
 - 3. Mounting Device: Full-size Sample.
 - 4. Sample Panels: No larger than 36 by 36 inches (914 by 914 mm). Show joints and mounting methods.
- E. Product Certificates: For each type of acoustical wall panel, signed by product manufacturer.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of acoustical wall panel.
- G. Maintenance Data: For acoustical wall panels to include in maintenance manuals. Include fabric manufacturers' written cleaning and stain-removal recommendations.
- H. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
- B. Source Limitations: Obtain acoustical wall panels through one source from a single manufacturer.
- C. Fire-Test-Response Characteristics: Provide acoustical wall panels with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

- 1. Flame-Spread Index: 25 or less.
- 2. Smoke-Developed Index: 450 or less.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with fabric and acoustical wall panel manufacturers' written instructions for minimum and maximum temperature and humidity requirements for shipment, storage, and handling.
- B. Deliver materials and panels in unopened bundles and store in a temperature-controlled dry place with adequate air circulation.
- C. Protect panel edges from crushing and impact.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install acoustical wall panels until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Lighting: Do not install acoustical wall panels until a permanent level of lighting is provided on surfaces to receive acoustical wall panels.
- C. Air-Quality Limitations: Protect acoustical wall panels from exposure to airborne odors, such as tobacco smoke, and install panels under conditions free from odor contamination of ambient air.
- D. Field Measurements: Verify locations of acoustical wall panels by field measurements before fabrication and indicate measurements on Shop Drawings.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of acoustical wall panels that fail in performance, materials, or workmanship within specified warranty period.
 - 1. Failure in performance includes, but is not limited to, acoustical performance.
 - 2. Failures in materials include, but are not limited to, fabric sagging, distorting, or releasing from panel edge; or warping of core.
 - 3. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 BACK-MOUNTED BONDED ACOUSTICAL PAD WALL PANELS

- A. Available Products and Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Echo Eliminator, Bonded Acoustical Pad BAP, Acoustical Surfaces Inc. (800-448-0121)
- B. Nominal Core Thickness and Overall System NRC: 2 inch (13 mm) and not less than NRC 1.15.
- C. Panel Width: As indicated on Drawings.
- D. Panel Height: Fabricated from units in height as indicated on Drawings; mounting height as indicated on Drawings.
- E. Panel Edge: Square.

2.2 FABRICATION

- A. Sound-Absorption Performance: Provide acoustical wall panels with minimum NRCs indicated, as determined by testing per ASTM C 423 for mounting type specified.
- B. Dimensional Tolerances of Finished Units: Plus or minus 1/4 inch (1.6 mm) for the following:
 - Thickness.
 - Edge straightness.

- 3. Overall length and width.
- 4. Squareness from corner to corner.
- 5. Chords, radii, and diameters.
- C. Back-Mounting Devices: Concealed on backside of panel, recommended to support weight of panel, and as follows:
 - 1. Adhesive. Use only adhesives that have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).]

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fabric, substrates, blocking, and conditions, with Installer present, for compliance with requirements, installation tolerances, and other conditions affecting performance of acoustical wall panels.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install acoustical wall panels in locations indicated with vertical surfaces and edges plumb, top edges level and in alignment with other panels, faces flush, and scribed to fit adjoining work accurately at borders and at penetrations.
 - 1. Cut units to be at least 50 percent of unit width, with facing material extended over cut edge to match uncut edge. Scribe acoustical wall panels to fit adjacent work. Butt joints tightly.
- B. Comply with acoustical wall panel manufacturer's written instructions for installation of panels using type of concealed mounting accessories indicated or, if not indicated, as recommended by manufacturer. Anchor panels securely to supporting substrate.
- C. Match and level fabric pattern and grain among adjacent panels.
- D. Installation Tolerances: As follows:
 - 1. Variation from Level and Plumb: Plus or minus 1/16 inch (1.6 mm).
 - 2. Variation of Panel Joints from Hairline: Not more than [1/16 inch (1.6 mm)] [1/32 inch (0.79 mm)] wide.

3.3 CLEANING

- A. Clip loose threads; remove pills and extraneous materials.
- B. Clean panels with fabric facing, on completion of installation, to remove dust and other foreign materials according to manufacturer's written instructions.

3.4 PROTECTION

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, to ensure that acoustical wall panels are without damage or deterioration at time of Substantial Completion.
- B. Replace acoustical wall panels that cannot be cleaned and repaired, in a manner approved by Architect, before time of Substantial Completion.

END OF SECTION 098413

SECTION 230993 - SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes control sequences for HVAC systems, subsystems, and equipment.
- B. Related Sections include the following:
 - 1. Division 23 Section "Instrumentation and Control for HVAC" for control equipment and devices and for submittal requirements.

1.3 DEFINITIONS

A. DDC: Direct digital control.

1.4 HEATING CONTROL SEQUENCES

- A. Heating-Water Supply Temperature Control:
 - 1. Input Device:
 - a. Heating water supply thermistor temperature sensor or resistance temperature sensor.
 - b. Outside temperature sensor.
 - c. Pump current sensor.
 - d. DDC system binary time schedule.
 - e. Boiler alarm.

2. Output Device:

- a. DDC binary output: boiler enable.
- b. DDC binary output: pump enable.
- c. DDC system alarm.
- d. Boiler leaving water setpoint.

3. Action:

- a. System is a lead-lag, fully redundant boiler system. Maintain approximately same starts/stops and runtime on each boiler.
- b. Enable lead boiler when outside air temperature falls below 65 deg F (programmable).
- c. Boiler provides request to start/stop pump to DDC system.

- d. Reset boiler leaving water temperature according to the following schedule:
 - 1) OAT: 65 deg F, LWT: 130 deg F (programmable).
 - 2) OAT: 0 deg F, LWT: 160 deg F (programmable).
- e. Report boiler alarms.
- f. Report pump alarms.

4. Display:

- a. Oustide air temperature.
- b. Status of each boiler.
- c. Enable of each boiler.
- d. Report alarm of each boiler.
- e. Status of each pump.
- f. Enable of each pump.
- g. Report alarm for pump failure.
- h. Heating-water supply temperature.
- i. Heating-water supply temperature set point.
- j. Heating-water return temperature.

1.5 CENTRAL COOLING SYSTEM EQUIPMENT SEQUENCES

- A. Cooling system is a water-cooled chiller, cooling tower, and waterside economizer.
 - 1. First stage of cooling is the waterside economizer (economizer mode).
 - 2. Second stage of cooling is the water-cooled chiller (chiller mode).
- B. On a call for cooling from the DDC system:
 - 1. Fill cooling tower sump.
 - 2. Start condenser water pump and in-line solids separator.
 - 3. Start chilled water primary and secondary pumps.
 - 4. Start cooling tower fan.
- C. Economizer Mode, when outside air wet-bulb is below 45 deg F (programmable):
 - 1. Position the valves V-HX-BYPASS1 and V-HX-BYPASS2 to flow through the heat exchanger HX-1, verify valve positions, and report alarms.
 - 2. Modulate cooling tower fan to maintain 45 deg F (programmable) cooling tower basin water temperature.
- D. Chiller Mode, when outside air wet-bulb is above 45 deg F(programmable):
 - 1. Start chiller after proving chilled-water flow switch, report alarms.
 - Position the valve V-HX-BYPASS2 to flow chilled water through the evaporator of the water-cooled chiller.
 - 3. Modulate the valve V-HX-BYPASS1 to modulate condenser water flow through the condenser of the water-cooled chiller. V-HX-BYPASS1 is modulated by the chiller's head pressure controller. Drive V-HX-BYPASS1 to 10% flow through chiller to start chiller.
 - 4. Modulate cooling tower fan to maintain 70 deg F (programmable) cooling tower basin water temperature.
 - 5. Chiller shall operate under "factory" controls, set chilled-water return set point to 55 deg F (programmable).

E. Condenser-Water and Chilled-Water Pumps:

- 1. Condenser and chilled-water pumps operate in a lead-lag fashion. Maintain approximately same starts/stops and runtime for each condenser and chilled-water pump. Alternate pumps weekly.
- 2. Interlock: Verify cooling tower sump is full of water before starting condenser water pump.
- 3. Verify pump operation, if lead pump fails to start, start lag pump, and report alarm.
- Modulate secondary chilled-water pump speed to maintain chilled-water supply and return pressure differential.
- 5. Run pumps for 15 minutes after call for cooling has been cancelled.

F. Cooling-Tower Sump Heater:

1. Start/stop cooling-tower sump heater to maintain sump temperature of 35 deg F when sump is full of water and outside air temperature falls below 32 deg F.

G. Inputs/Outputs:

- 1. AI Cooling-tower sump level.
- 2. DO Cooling-tower sump fill.
- 3. Al Cooling-tower sump temperature.
- 4. DO Cooling-tower sump heater.
- 5. DO Cooling-tower fan VFD enable.
- 6. DI Cooling-tower fan VFD status.
- 7. AO Cooling-tower fan VFD reference speed.
- 8. Al Cooling-tower fan VFD fan motor speed.
- 9. AI Cooling-tower fan VFD kW input.
- 10. DI Call for cooling from DDC system.
- 11. Al Outside air wet-bulb temperature.
- 12. Al Outside air dry-bulb temperature.
- 13. Al Condenser water return temperature.
- 14. AI Chilled-water supply temperature.
- 15. Al Chilled-water return temperature.
- 16. DO Condenser water lead pump start/stop.
- 17. DI Condenser water lead pump status.
- 18. DO Condenser water lag pump start/stop.
- 19. DI Condenser water lag pump status.
- 20. DO Chilled-water lead pump start/stop.
- 21. DI Chilled-water lead pump status.
- 22. DO Chilled-water lag pump start/stop.
- 23. DI Chilled-water lag pump status.
- 24. Al Chilled-water differential pressure.
- 25. DO Lead secondary chilled-water pump VFD enable.
- 26. DI Lead secondary chilled-water pump VFD status.
- 27. AO Lead secondary chilled-water pump VFD reference speed.
- 28. Al Lead secondary chilled-water pump VFD pump speed.
- 29. AI Lead secondary chilled-water pump VFD kW input.
- 30. DO Lag secondary chilled-water pump VFD enable.
- 31. DI Lag secondary chilled-water pump VFD status.
- 32. AO Lag secondary chilled-water pump VFD reference speed.
- 33. AI Lag secondary chilled-water pump VFD pump speed.
- 34. Al Lag secondary chilled-water pump VFD kW input.
- 35. AO V-HX-BYPASS1 position.
- 36. AI V-HX-BYPASS1 location.
- 37. DO V-HX-BYPASS2 position.
- 38. DI V-HX-BYPASS2 location.

- 39. DO Chiller enable.
- 40. DI Chiller status.
- 41. AI Chiller head pressure.
- 42. DI Chilled-water flow switch.
- H. Operator Station Display: Indicate the following on operator workstation display terminal:
 - 1. DDC system graphic.
 - 2. DDC system status, on-off.
 - 3. Cooling-tower sump level.
 - 4. Cooling-tower sump fill.
 - 5. Cooling-tower sump temperature.
 - 6. Cooling-tower sump heater.
 - 7. Cooling-tower fan VFD enable.
 - 8. Cooling-tower fan VFD status.
 - 9. Cooling-tower fan VFD reference speed.
 - 10. Cooling-tower fan VFD fan motor speed.
 - 11. Cooling-tower fan VFD kW input.
 - Call for cooling from DDC system.
 - 13. Outside air wet-bulb temperature.
 - 14. Outside air dry-bulb temperature.
 - 15. Condenser water return temperature.
 - 16. Chilled-water supply temperature.
 - 17. Chilled-water return temperature.
 - 18. Condenser water lead pump start/stop.
 - 19. Condenser water lead pump status.
 - 20. Condenser water lag pump start/stop.
 - 21. Condenser water lag pump status.
 - 22. Chilled-water lead pump start/stop.
 - 23. Chilled-water lead pump status.
 - 24. Chilled-water lag pump start/stop.
 - 25. Chilled-water lag pump status.
 - 26. Chilled-water differential pressure.
 - 27. Lead secondary chilled-water pump VFD enable.
 - 28. Lead secondary chilled-water pump VFD status.
 - 29. Lead secondary chilled-water pump VFD reference speed.
 - 30. Lead secondary chilled-water pump VFD pump speed.
 - 31. Lead secondary chilled-water pump VFD kW input.
 - 32. Lag secondary chilled-water pump VFD enable.
 - 33. Lag secondary chilled-water pump VFD status.
 - 34. Lag secondary chilled-water pump VFD reference speed.
 - 35. Lag secondary chilled-water pump VFD pump speed.
 - 36. Lag secondary chilled-water pump VFD kW input.
 - 37. V-HX-BYPASS1 position.
 - 38. V-HX-BYPASS1 location.
 - 39. V-HX-BYPASS2 position.
 - 40. V-HX-BYPASS2 location.
 - 41. Chiller enable.
 - 42. Chiller status.
 - 43. Chiller head pressure.

I. Alarms:

- 1. Cooling-tower sump low level.
- 2. Cooling-tower low sump temperature.
- 3. Cooling-tower VFD alarm.
- 4. Condenser water lead pump failure.

- 5. Condenser water lag pump failure.
- 6. Primary chilled-water lead pump failure.
- 7. Primary chilled-water lag pump failure.
- 8. Secondary chilled-water lead pump VFD alarm.
- 9. Secondary chilled-water lag pump VFD alarm.
- 10. Waterside economizer bypass valve V-HX-BYPASS1 position failure alarm.
- 11. Waterside economizer bypass valve V-HX-BYPASS2 position failure alarm.
- 12. Chiller alarm.
- 13. Chilled-water flow switch alarm.

1.6 FOUR-PIPE HYDRONIC FAN-COIL-UNIT CONTROL SEQUENCES

A. Start and Stop Supply Fan(s):

- 1. Enable: Freeze Protection:
 - a. Input Device: Duct-mounted averaging element thermostat, located after heating water coil and before chilled-water coil.
 - b. Output Device: Hard wired through motor starter; DDC system alarm.
 - Action: Allow start if duct temperature is above 37 deg F; signal alarm if fan fails to start as commanded.
- 2. Enable: Smoke Control (FCU's 7 thru 13, and FCU-STH):
 - a. Input Device: Duct-mounted smoke detector, located in return air.
 - b. Output Device: Hard wired through motor starter; DDC system alarm.
 - c. Action: Allow start if duct is free of products of combustion.
- 3. Initiate: Occupied Time Schedule:
 - a. Input Device: DDC system time schedule.
 - b. Output Device: Binary output to motor starter.
 - c. Action: Energize fan(s) and open gravity intake ventilator outside air dampers.
- 4. Initiate: Unoccupied Time Schedule:
 - a. Input Device: DDC system time schedule and room thermostat.
 - b. Output Device: Binary output to motor starter.
 - c. Action: Energize fan(s).
- 5. Unoccupied Ventilation:
 - a. Input Device: DDC system time schedule and output.
 - b. Output Device: DDC system binary output to motor starter.
 - c. Action: Cycle fan(s) during unoccupied periods and close gravity intake ventilator outside air dampers.
- 6. Display: Supply-fan on-off indication.
- 7. "Incident" (Anthrax Release, etc.) Alarm:
 - a. Input Device: Building alarm system.
 - b. Output Device: DDC system binary output to motor starter, fire-smoke dampers, and gravity intake ventilator outside air dampers.
 - c. Action: On report of "incident" from building alarm system, DDC system shall shut down and isolate FCU-11, FCU-12, and FCU-13.

- 1) Stop supply fan.
- 2) Close supply and return fire-smoke dampers associated with FCU-11, FCU-12, and FCU-13.
- 3) Close gravity intake ventilator outside air dampers associated with FCU-11, FCU-12, and FCU-13.

B. Hydronic Heating Coil (All Heating Coils in Preheat Position):

1. Occupied Time Schedule:

- a. Input Device: DDC system time schedule.
- b. Output Device: Binary output.
- c. Action: Enable control.

2. Discharge-Air Temperature:

- a. Input Device: Duct-mounted thermostat.
- b. Output Device: Normally open modulating control valve.
- c. Action: Modulate heating control valve to maintain discharge-air temperature set point.

3. Temperature Reset:

- a. Input Device: Room thermostat.
- b. Output Device: DDC system.
- c. Action: Reset discharge-air temperature set point in a PID loop to satisfy room thermostat when occupied. When unoccupied, set discharge-air temperature set point to 90 deg F (programmable).

4. Display:

- a. Heating-coil control-valve position.
- b. Room thermostat temperature.

C. Hydronic Cooling Coil:

- 1. Occupied Time Schedule:
 - a. Input Device: DDC system time schedule.
 - b. Output Device: Binary output.
 - c. Action: Enable control.

2. Discharge-Air Temperature:

- a. Input Device: Duct-mounted thermostat.
- b. Output Device: Normally closed modulating control valve.
- c. Action: Modulate cooling control valve to maintain discharge-air temperature set point.

3. Temperature Reset:

- a. Input Device: Room thermostat.
- b. Output Device: DDC system.
- Action: Reset discharge-air temperature set point in a PID loop to satisfy room thermostat when occupied.

4. Display:

- a. Discharge-air temperature.
- b. Discharge-air temperature set point.
- c. Cooling-coil control-valve position.
- D. Coordination of Air-Handling Unit Sequences: Ensure that heating-coil and cooling-coil controls have common inputs and do not overlap in function.
- E. Operator Station Display: Indicate the following on operator workstation display terminal:
 - 1. DDC system graphic.
 - 2. DDC system on-off indication.
 - 3. DDC system occupied/unoccupied mode.
 - 4. Outdoor-air-temperature indication.
 - 5. Supply-fan on-off indication.
 - 6. Heating-coil control-valve position.
 - 7. Cooling-coil air-temperature indication.
 - 8. Cooling-coil air-temperature set point.
 - 9. Cooling-coil control-valve position.
 - 10. Room temperature indication.
 - 11. Room temperature set point.

1.7 TERMINAL UNIT OPERATING SEQUENCE

- A. Infrared Radiant Heater:
 - 1. Space Temperature:
 - a. Input Device: Room thermostat.
 - b. Action: Start/stop infrared radiant heater subject to "factory" controls.
- B. Duct Free Split A/C Systems:
 - Operate duct free split A/C systems with "factory" controls subject to "factory" room thermostat.
 - 2. DDC room temperature sensor, report room temperature and report alarm when room temperature exceeds 80 deg F (programmable).

1.8 HUMIDIFIERS OPERATING SEQUENCE

- A. Humidifier:
 - 1. Humidity:
 - a. DDC system shall enable humidifier when outside air temperature falls below 40 deg F (programmable).
 - b. Humidifiers shall run subject to "factory" controls.
 - c. A humidistat mounted next to the room temperature sensor shall report the humidity through the DDC system.
 - 2. Humidity Reset Schedule:

- a. When outside air temperature is 50 deg F, relative humidity shall be 30% (programmable).
- b. When outside air temperature is 0 deg F, relative humidity shall be 15% (programmable).
- c. When outside air temperature is below 0 deg F, humidifiers shall not operate.

3. Display:

- a. Relative humidity indication.
- b. Relative humidity set point.

1.9 VENTILATION SEQUENCES

A. Exhaust Fans:

- 1. EF-1, EF-2, EF-BRK, EF-109, EF-146, EF-223, EF-224, and EF-225
 - Run continuously subject to binary output from lighting occupancy sensor controller.
 - b. The lighting occupancy sensor will provide a 15 minute time delay for the exhaust fan.
 - c. On "incident" report from building alarm system, DDC system shall shut down and isolate EF-1 and EF-2.
 - 1) Stop exhaust fan.
 - Close motorized dampers.

2. EF-MECH

- Run subject to room temperature sensor.
- b. Display:
 - 1) Room temperature.
 - 2) Room temperature set point.
- 3. EF-213 and EF-215
 - a. Run continuously subject to wall switch.

1.10 ALARM SEQUENCES

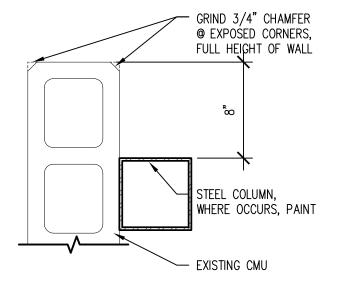
A. Alarm Notification:

1. Report DDC system alarms as directed by the owner. Alarms may be reported by operator control panel, email, and pager.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 230993

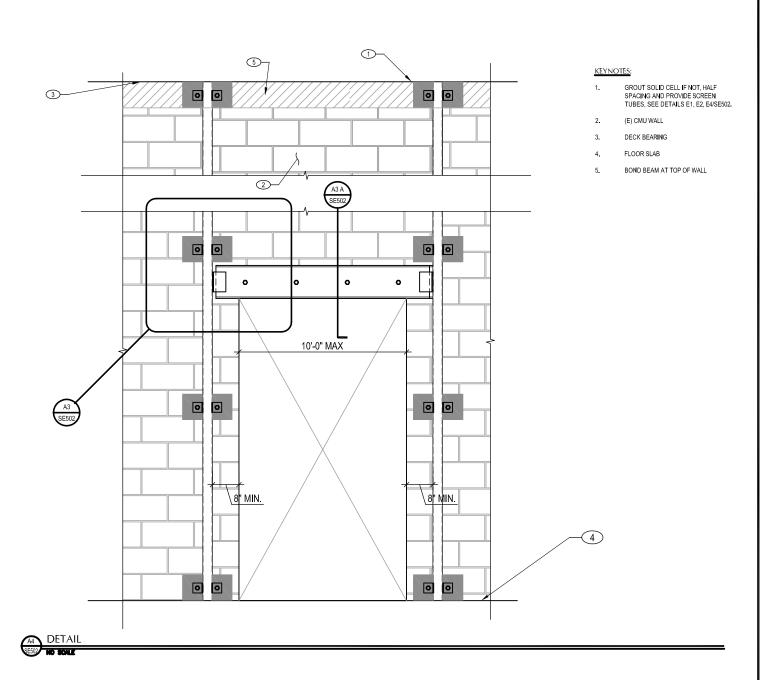




CMU DETAIL

SCALE $1 \frac{1}{2} = 1' - 0''$

4-02.dwg



DETAIL A4/SE502 REVISED 1/23/09

PROJECT:

State Mail

PROJECT NUMBER: 08091 DATE:

1/23/09

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				035	EAN		MOTOR					OPENING	WANI IEACTI IDED	
MARK	AREA SERVED	TYPE	CFI	IN WC	RPM	BHP	₽	VOLT/ PHASE	SOMES	DAMPER	CONTROL	SIZE	MODEL	REMARKS
E-1	RESTROOMS	CENT. ROOF	750	9.0	1302	.118	1/4	120/ 1¢	8.2	MOTORIZED	мыны (15.5/15.5	COOK ACED 120C15D	W/ ELECTRONIC SPEED CONTROL
EF-2	MAIL SORTING/ INSERTERS	CENT. ROOF	1000	0.25	1137	680.	1/4	120/ 1¢	7.1	MOTORIZED	LIGHTS	15.5/15.5	COOK ACED 120C15D	W/ ELECTRONIC SPEED CONTROL
EF-BRK	BREAK ROOM	CENT. ROOF	250	0.5	1489	72 Watts	1/8	120/ 1¢	7.1	GRAVITY	LIGHTS	13.5/13.5	COOK ACED 90C15DH	W/ ELECTRONIC SPEED CONTROL
EF-MECH	MECHANICAL ROOM	CENT. ROOF	200	0.25	1429	85 WATTS	1/8	120/ 1¢	7.6	GRAVITY	1-STAT	13.5/13.5	COOK ACED 90C15DH	W/ ELECTRONIC SPEED CONTROL
EF-109	JANITOR'S 109	CEILING	50	0.25	740	36 WATTS	N/A	120/ 1¢	1.0	GRAVITY	LIGHTS	15/13	C00K GEMC GC-122	W/ ELECTRONIC SPEED CONTROL
EF-146	RESTROOM 146	CEILING	75	0.3	983	45 WATTS	N/A	120/ 1¢	2.1	GRAVITY	LIGHTS	15/13	COOK GEMC GC-142	W/ ELECTRONIC SPEED CONTROL
EF-213	BREAK ROOM 213	CEILING	100	0.3	982	64 Watts	N/A	120/ 1¢	2.4	GRAVITY	WALL SWITCH	15/13	COOK GEMC GC-144	W/ ELECTRONIC SPEED CONTROL
EF-215	BREAK ROOM 215	CEILING	150	0.25	1127	93 WATTS	N/A	120/ 1¢	3.5	GRAVITY	WALL SWITCH	15/13	COOK GEMC GC-164	W/ ELECTRONIC SPEED CONTROL
EF-223	JANITOR'S 223	CEILING	50	0.3	759	36 WATTS	N/A	120/ 1¢	1.8	GRAVITY	LIGHTS	15/13	COOK GEMC GC-122	W/ ELECTRONIC SPEED CONTROL
EF-224	WOMEN'S 224	CEILING	75	0.3	985	45 WATTS	N/A	120/ 1¢	2.1	GRAVITY	LIGHTS	15/13	COOK GEMC GC-142	W/ ELECTRONIC SPEED CONTROL
EF-225	MEN'S 225	CEILING	75	0.3	985	45 WATTS	N/A	120/ 1¢	2.1	GRAVITY	LIGHTS	15/13	COOK GEMC GC-142	W/ ELECTRONIC SPEED CONTROL



986 WEST ATHERTON DRIVE, SUITE 200 TAYLORSVILLE, UTAH 84123 (801) 268-3828, FAX (801) 268-3297 WWW.SMDENGINEERING.COM CHANGE TO MOTORIZED DAMPER

PROJECT:

STATE MAIL SERVICES

reference: 1/MH601

BY: JOB #: SCALE: DATE: JANUARY 26, 2009

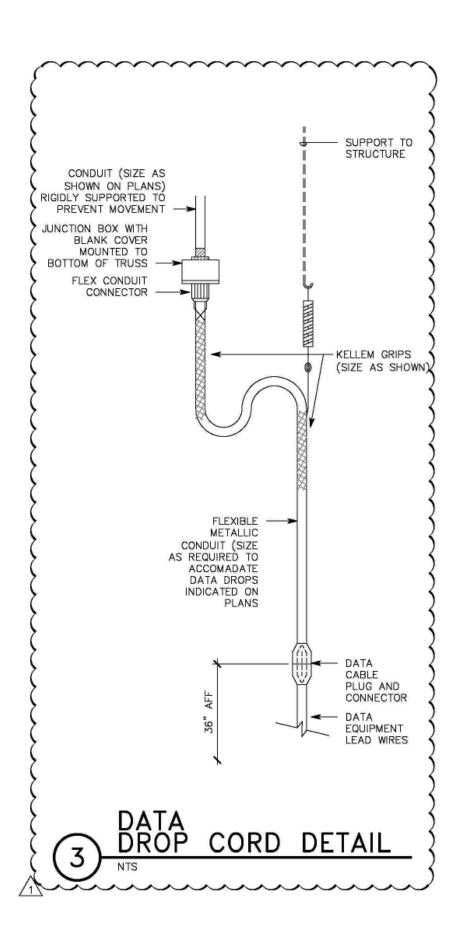
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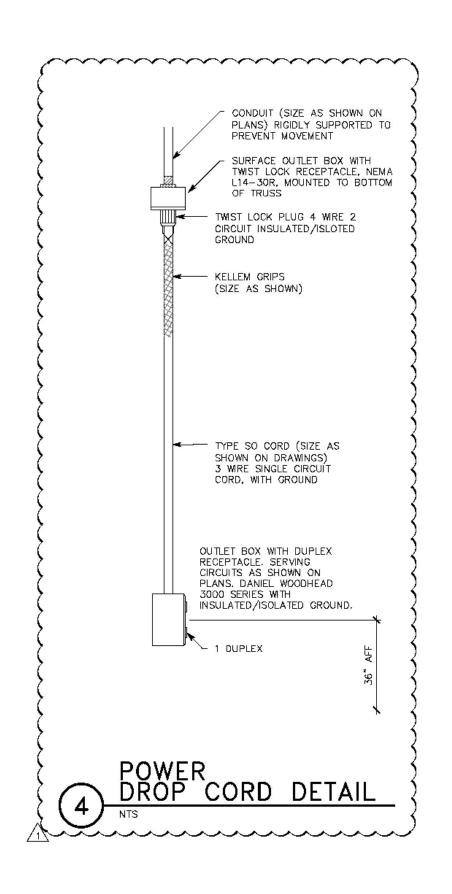
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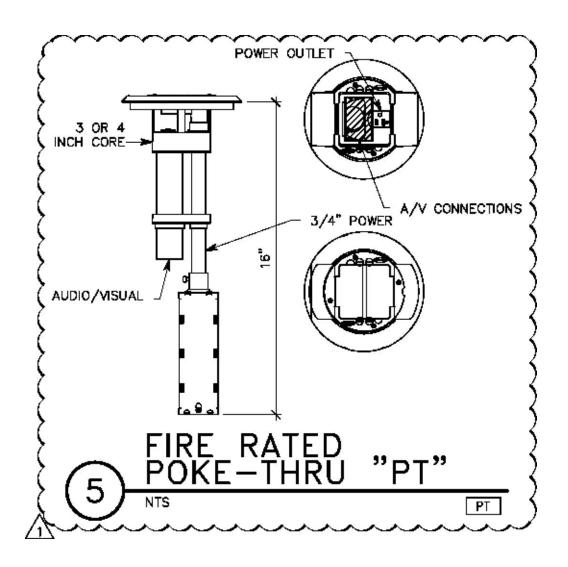
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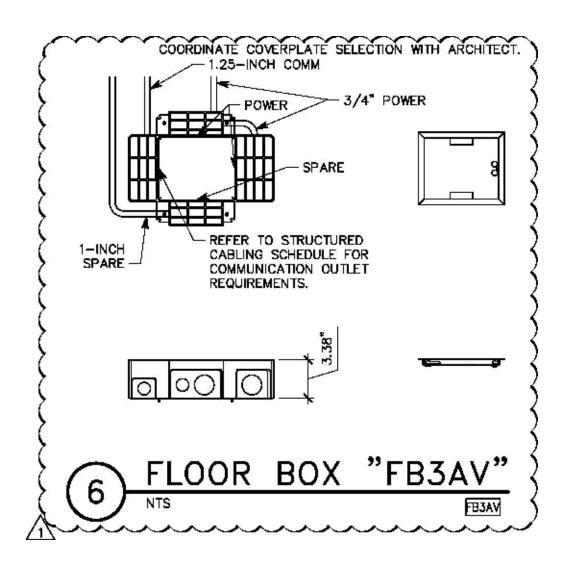
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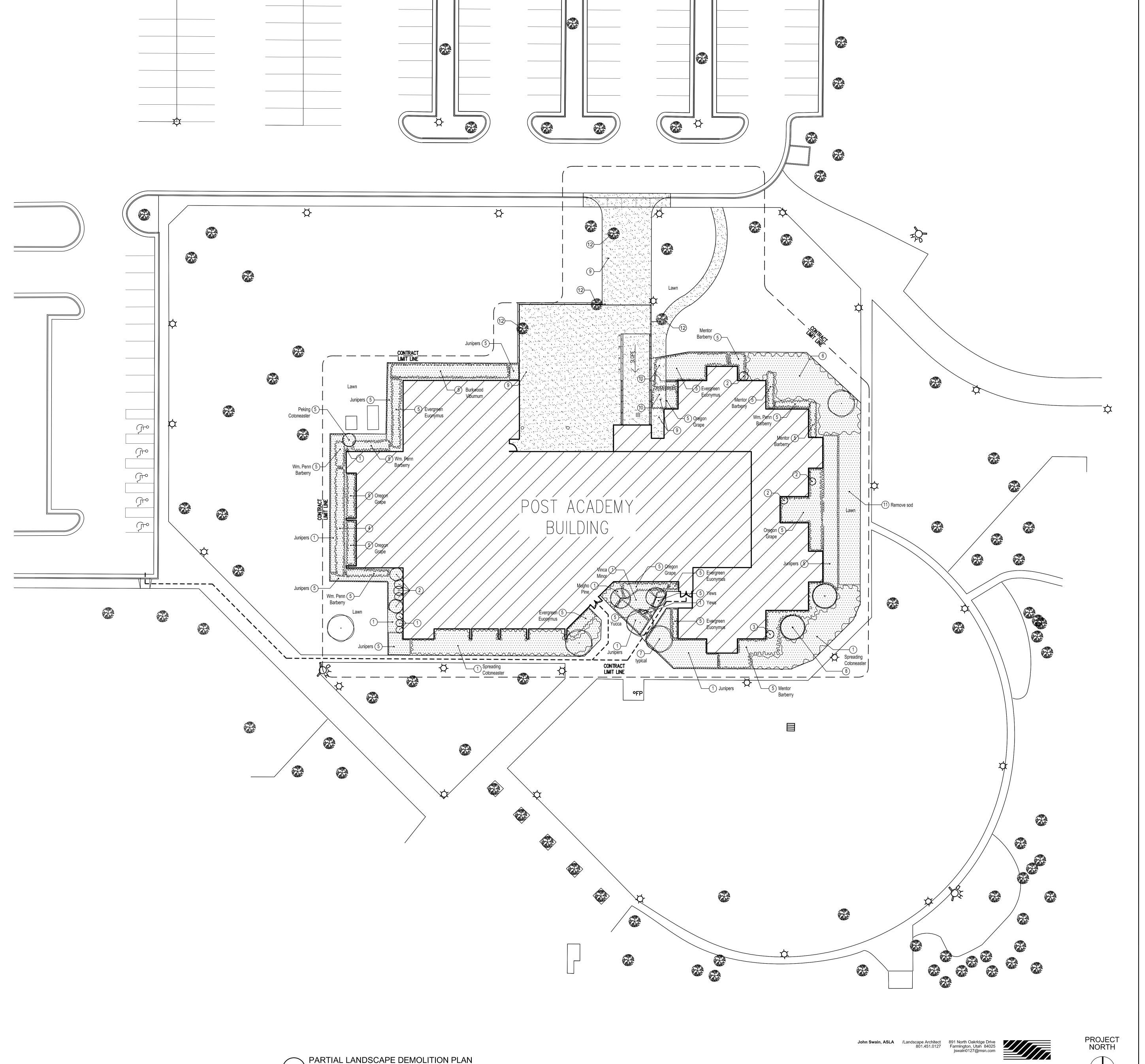
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_	20	1	1.7			Lights 216	2.1	2.7		2.1	1.3	Lights 201, 202 & 204	1.0			20	1	8
-	20	1	1,6			Lights 216	2.0	2.1	2.6		1.3	Lights 200 & 200	1.0			20	1	10
1	20	1			0.5	DF 225	0.5		2.0	2.0	1.5	AV Receptacle 218	110	1.5		20	1	12
3	20	1			0.5	DF 225	0.5	1.7			1.2	Receptocles 216 & 216		1.2		20	1	14
5	20	1		1.5		Copier 219 Receptacle	1.5	- 1	2.0		0.5	Power Screen 218		0.5		20	1	16
7	20	1		1.0		Workroom 219 Receptocles	1.0			1.8	0.8	Office 222 Receptocles		0.8		20	1	15
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3	20	1		1.2		Refrigerator 216	1.2			1.8	0.6	Storage 223 Receptacles		0.6		20	1	24
5	20	1		1.0		Disposal 216	1.0	1.8			0.8	Storage 224 Receptacles		8.0		20	1	26
7	20	1		1.0		Counter Receptacles 216	1.0		2.0		1.0	Men 213		1.0		20	1	28
9	20	1		1.0		Counter Receptocles 216	1.0			2.0	1.0	Warnen 215		1.0		20	1	30
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3	20	1		1.2		Refrigerator 210	1.2		2.2		1.0	Break 21D Counter Recept		1.D		20	1	34
5	20	1		1.0		Disposal 210	1,0			2.0	1.0	Break 210 Counter Recept		1.0		20	1	36
7	20	1		0.5		Receptacles 210	0.5	2.1			1.6	Break 210 Counter Recept		1.6		20	1	38
9	20	1			0.5	DF 201	0.5		1.3		0.8	Office 212 Receptacles		8.0		20	1	40
1	20	1			0.5	DF 201	0.5			1.3	0.8	Office 211 Receptocles		8.0		20	1	42
3_	20	1		1.0		Receptacle 209	1.0	1.8			0.8	Office 206 Receptocles		8.0		20	1	44
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5	20	1			1.2	FCU-1 Level 2 1/2 HP	1.2	2.0		2.0	0.8	Office 205 Receptacles		0.8		20	1	56
7	20	1			1.2	FCU-2 Level 2 1/2 HP	1.2	2.0	1,2		0.0	Office 200 Receptudies		0.0		20	1	58
9	20	1			1.2	FCU-3 Level 2 1/2 HP	1.2		1,2	2.4	1.2	FCU-1 Level 1 1/2 HP			1.2	20	1	60
1	20	1			1.2	FCU-4 Level 2 1/2 HP	1.2	2.4		2.1	1.2	FCU-2 Level 1 1/2 HP			1.2	20	i	62
3	20	1			1.2	FCU-5 Level 2 1/2 HP	1.2		24		1.2	FCU-3 Level 1 1/2 HP			1.2	20	1	64
5	20	1			1.2	FCU-6 Level 2 1/2 HP	1.2			2.4	1.2	FCU-4 Level 1 1/2 HP			1.2	20	1	66
7	20	1			0.2	EF-213	0.2	1.4			1.2	FCU-5 Level 1 1/2 HP			1.2	20	1	58
9	20	1			0.2	EF-215	0.2		1.4		1.2	FCU-6 Level 1 1/2 HP			1.2	20	1	70
1	20	1			0.2	EF-223	0.2			1.4	1.2	FCU-7 Level 1 1/2 HP			1.2	20	1	72
3	20	1			0.2	EF-224	0.2	1.4			1.2	FCU-8 Level 1 1/2 HP			1.2	20	1	74
5	20	-1			0.2	EF-225	0.2		0.2		0.0	Spare				20	1	76
7	20	1				Spare	0.0			0.0	0.0	Spare				20	1	78
ð	20	1				Spore	0.0	0.0			0.0	Spare				20	1	80
1	20	1				Spore	0.0		0.0		0.0	Spare				20	1	82
3	20	1				Spore	0.0		L	0.0	0.0	Spare				20	1	84
TA	LS:					CONNECTED KVA PER P			25	24			ONNE					
_	B. II. IE					CONNECTED AMPS PER P	HASE	205	204	198		CONNECTED AVERA	AGE A	MPS F	ER P	HASE	203	
C	DIVER					1174117	00 E						5.U ===	0.00	TO T.	N 75-7		-
		ITING						THER				24 kVA		SIFIED				6.
	CEPTA				0% =	10 kVA 13 kVA	25%	OF LA	KGES	MOT	DK =	O kVA AVE	RAGE	AMPS	HEK	PHASI	=	17











GENERAL NOTES:

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING LANDSCAPING & SITE IMPROVEMENTS WHICH ARE TO REMAIN FREE FROM DAMAGE DURING CONSTRUCTION BOTH INSIDE AND OUTSIDE THE CONTRACT LIMIT LINE. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED ITEM OR SITE IMPROVEMENTS AS SPECIFIED. OR IF NOT SPECIFIED, TO MATCH EXISTING ADJACENT CONSTRUCTION REFER TO SHEET AS-101, ARCHITECTURAL SITE PLAN / PARTIAL SITE DEMOLITION PLAN FOR NOTES REGARDING DEMOLITION AND PRESERVATION OF EXISTING FEATURES NOT INCLUDED ON THIS LANDSCAPE DEMOLITION PLAN.
- CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL UTILITIES AND SITE IMPROVEMENTS WHICH ARE AFFECTED BY, OR WHICH TIE-IN WITH NEW CONSTRUCTION
- 3. EXISTING ROAD, PARKING, SERVICE DRIVES, & SIDEWALKS SHALL REMAIN ACCESSIBLE & BE KEPT CLEAR OF CONSTRUCTION EQUIPMENT, MATERIALS, MUD, DIRT, OTHER DEBRIS

DEMOLITION NOTES:

- 1 REMOVE SHRUBS/WEEDS/GRASSES ETC. INCLUDING ROOTS.
- 2 REMOVE WILD ROSES INCLUDING ROOTS.
- 3 REMOVE RUSSIAN OLIVE TREE.
- 4 TOP YEWS INTO CONTIUOUS HEDGE APPX. 3' HIGH.
- (5) RETAIN AND PROTECT NOTED PLANT MATERIAL.
- RETAIN COTONEASTER. TRIM BACK PLANTS AT PERIMETER OF PLANTING BED TO REDUCE HEIGHT TO MATCH INTERIOR PLANTING BED AND REMOVE LARGE EXPOSED INTERIOR BRANCHES.
- 7) RETAIN & PROTECT EXISTING TREES. TRIM LOW BRANCHES ON HONEYLOCUST AT SOUTH ENTRY TO BUILDING
- 8) REMOVE EXISTING BLUE SPRUCE.
- CAP AND REMOVE SPRINKLER HEADS IN DELETED PLANTING AREA AS NECESSARY TO FACILITATE NEW CONSTRUCTION. MODIFY EXISTING SHRUB VALVES TO ACCOMODATE REMAINING PLANTING.
- (10) REMOVE EUONYMUS AS REQUIRED TO FACILITATE CONCRETE SLAB.
- (1) REMOVE EXISTING SOD TO 2" BELOW SUBGRADE. SUPPLY, INSTALL AND FINE GRADE NEW TOPSOIL IN PREPARATION FOR NEW SOD.
- (12) REMOVE EXISTING TREE.

CONSTRUCTION DOCUMENTS

STATE MAIL SERVICES

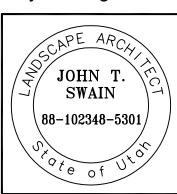
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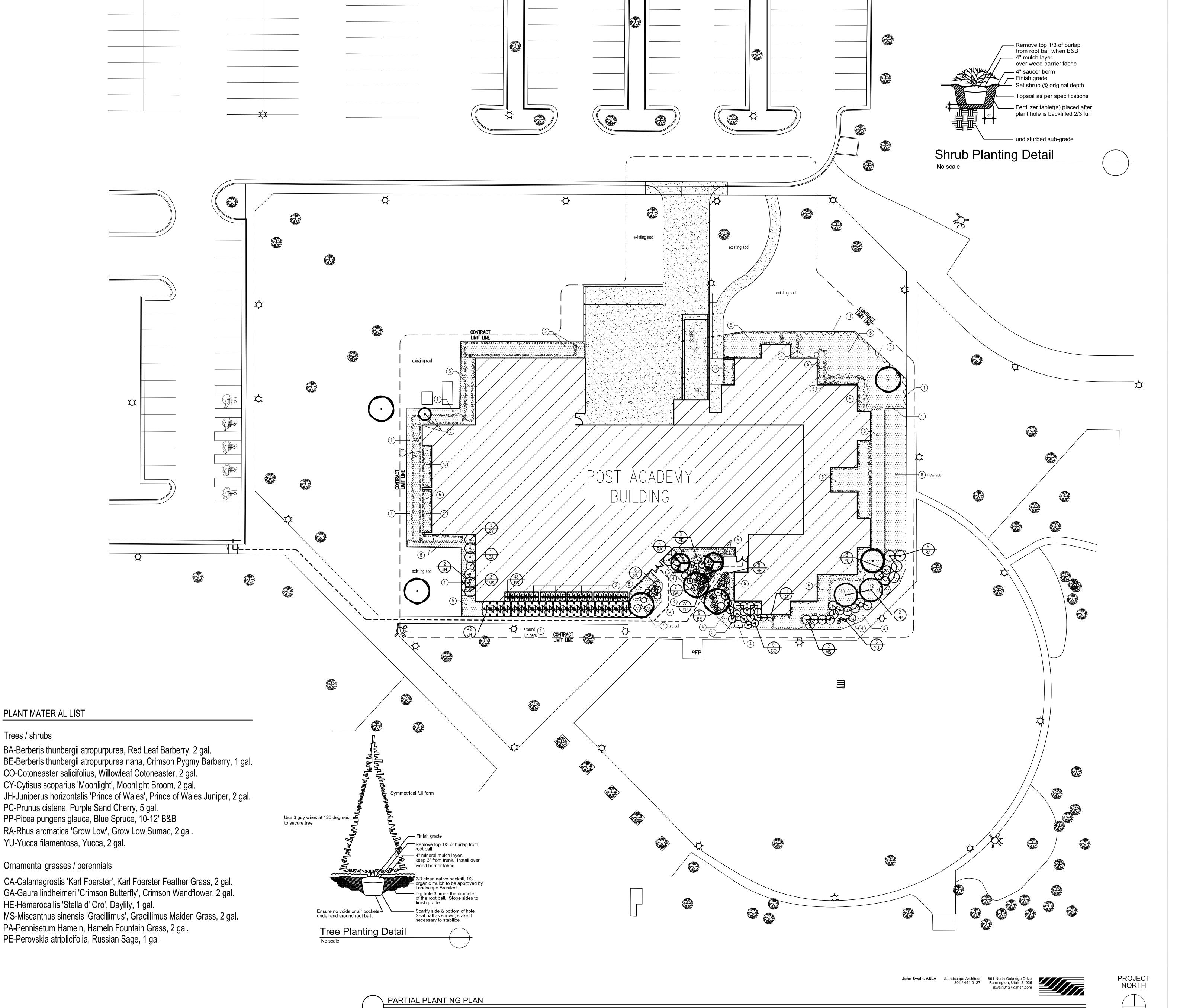


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PLANT MATERIAL LIST

Trees / shrubs

GENERAL NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING LANDSCAPING & SITE IMPROVEMENTS WHICH ARE TO REMAIN FREE FROM DAMAGE DURING CONSTRUCTION BOTH INSIDE AND OUTSIDE THE CONTRACT LIMIT LINE. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED ITEM OR SITE IMPROVEMENTS AS SPECIFIED. OR IF NOT
- SPECIFIED, TO MATCH EXISTING ADJACENT CONSTRUCTION CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL UTILITIES AND SITE IMPROVEMENTS WHICH ARE AFFECTED BY, OR WHICH TIE-IN WITH NEW
 - 3. EXISTING ROAD, PARKING, SERVICE DRIVES, & SIDEWALKS SHALL REMAIN ACCESSIBLE & BE KEPT CLEAR OF CONSTRUCTION EQUIPMENT, MATERIALS, MUD, DIRT, OTHER DEBRIS
- 4. SEE CIVIL DRAWINGS FOR EXTENT OF SITE WORK AND ARCHITECTURAL SHEET AS-101, ARCHITECTURAL SITE PLAN / PARTIAL SITE DEMOLITION PLAN FOR NOTES REGARDING EXISTING LANDSCAPE.

PLANTING NOTES:

- 1) PLACE 4" DEPTH OF SHREDDED BARK MULCH OVER WEED BARRIER.

2 PLACE 4" DEPTH OF 1" DIA. MINERAL MULCH OVER WEED BARRIER.

- (3) PLACE 6" DEPTH OF 3-4" COBBLE MULCH OVER WEED BARRIER.
- 4 SANDSTONE "SLAB" BOULDERS (APPX. 3' X 4' X 16" HIGH) 9 REQ. (5) RETAIN AND PROTECT NOTED PLANT MATERIAL.
- (6) RETAIN COTONEASTER. TRIM BACK PLANTS AT OUTSIDE PERIMETER OF
- PLANTING BED TO REDUCE HEIGHT TO MATCH INTERIOR PLANTING BED AND REMOVE LARGE EXPOSED INTERIOR BRANCHES.
- 7) RETAIN & PROTECT EXISTING TREES. TRIM LOW BRANCHES ON HONEYLOCUST AT SOUTH ENTRY TO BUILDING
- (8) REMOVE AND INSTALL NEW SOD. RETAIN AND PROTECT REDWOOD EDGER.

IRRIGATION NOTES:

- CONTRACTOR SHALL BE RESPONSIBLE FOR RETAINING EXISTING IRRIGATION SYSTEM IN AREAS NOT RECEIVING NEW PLANTING DURING DEMOLITION AND PLANTING PROCESS. SYSTEM SHALL BE KEPT IN WORKING ORDER WHERE POSSIBLE AND/OR PROVIDE SUPPLEMENTAL WATERING AS REQUIRED TO MAINTAIN PLANTS IN A HEALTHY AND VIGOROUS CONDITION.
- CONTRACTOR TO MODIFY EXISTING IRRIGATION SYSTEM IN AREAS TO RECEIVE NEW PLANT MATERIAL OR AREAS DISTURBED BY REMOVAL OF EXISTING PLANTS. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL IRRIGATION VALVES, HEADS, LINES WHICH ARE AFFECTED BY, OR WHICH TIE-IN WITH NEW CONSTRUCTION. a) WHERE HEADS ARE NO LONGER NEEDED, REMOVE HEADS AND CAP.
- b) CONTRACTOR SHALL PROVIDE SPRINKLER LAYOUT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION. LAYOUT SHALL UTILIZE IRRIGATION COMPONENTS WHICH EMPLOY WATER CONSERVING METHODS WHILE PROVIDING ADEQUATE WATER DISTRIBUTION TO THE NEW PLANT MATERIAL BASED ON INDUSTRY STANDARDS.
- c) SPRAY HEADS SHALL BE USED ONLY WHERE REQUIRED TO ACHIEVE ADEQUATE DISTRIBUTION OF WATER FOR PLANTS.
- d) CONTRACTOR TO REUSE EXISTING ZONES, VALVES AND WIRING. CONTRACTOR TO SUPPLY AND INSTALL NEW IRRIGATION CONTROLLER (RAINBIRD ESP-MC 12 STATION CONTROLLER). COORDINATE LOCATION AND INSTALLATION WITH STATE GROUNDS MAINTENANCE PERSONNEL. UTILIZE EXISTING ZONES AND EXTEND AND/OR SHORTEN WHERE POSSIBLE TO ACHIEVE DESIRED DISTRIBUTION OF WATER BASED ON NEW PLANTING SCHEME.
- CONTRACTOR TO MODIFY LAYOUT OF LAWN HEADS ON NORTH SIDE OF BUILDING TO ACCOMMODATE NEW CONCRETE DRIVE AND PARKING.
- 4. STATE CONTACT FOR GROUNDS: DAN BERRY 965-4780.

CONSTRUCTION DOCUMENTS

STATE MAIL SERVICES

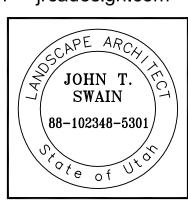
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PARTIAL PLANTING PLAN

NEAR THE PROJECT SITE.

SCATTERING.

CONSTRUCTION.

9. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES LOCATED AT OR NEAR THE PROJECT SITE AND SHALL PROTECT THOSE UTILITIES FROM ANY POTENTIAL DAMAGE.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL IN

CONTRACTOR SHALL WET DOWN ALL DRY MATERIALS TO PREVENT BLOWING DUST AND REMOVE ALL RUBBISH TO PREVENT WIND

11. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO ADJACENT SURFACE IMPROVEMENTS DURING

12. ALL EXISTING ASPHALT TO BE CUT SHALL BE SAWCUT IN NEAT STRAIGHT LINES BY THE CONTRACTOR PRIOR TO EXCAVATION.

ACCORDANCE WITH THE TAYLORSVILLE CITY STANDARDS.

GRATE 4308.25

EXISTING BUILDING

FFE. 4312.43 TOP OF BUILDING 4338.65

4509

LINSTALL APWA STD 221 FLARE

DRIVEWAY APPROACH TYPE B

F_4309.08

- SAWCUT EXISTING CURB,

GUTTER, AND SIDEWALK,

HNSTALL RIGID PAVEMENT STRUCTURE CONSISTING OF 6

BASE COURSE OVER A PREPARED SUBGRADE.

INSTALL STORM DRAIN CLEANOUT BOX

(AMCOR 4FT X 4 FT, OR APPROVED

EQUAL) TOP 4310.35, INV 4305.92
REGRADE EXISTING BERM AT NEW

SIDEWALK, COORDINATE W/ LANDSCAPING PLAN. MAX. SLOPE 3:1.

─INSTALL APWA STD 231 6 FOOT WIDE, 6 INCH THICK CONCRETE SIDEWALK

W/ 4 INCH UNTREATED BASE COURSE

INSTALL 55LF 8"Ø HDPE

-INSTALL CATCH BASIN IN BOTTOM OF LOADING DOCK,

TOP 4308.65, INV 4306.14

F 4310.17 STORM DRAIN @ 0.4%

IF 4310.48 INSTALL APWA STD 231 6

ON CENTER (BOTH WAYS) OVER 12 INCHES UNTREATED

MATCH EXIST. SIDEWALK ELEVATION.

MATCH EXISTING ELEVATION

SAWCUT EXISTING CURB, -

MATCH EXISTING ELEVATION

GRATE 4308.78

CATCH BASIN

GUTTER, AND SIDEWALK,

REGRADE EXISTING BERM AT NEW ---

DRIVE, COORDINATE W/ LANDSCAPING

REGRADE LANDSCAPE AREA —

DEMOLISH AND REMOVE EXISTING 10,000 GALLON -

W/ STRUCTURAL FILL IN 12 INCH MAXIMUM LIFTS |

COMPACTED TO 95% MODIFIED PROCTOR DENSITY.

HEAT PUMP UNDERGROUND STORAGE TANK, REFER TO ARCHITECTURAL DRAWINGS. BACKFILL

TO DIRECT SURFACE DRAINAGE TO EXISTING CATCH BASIN

4315---/

INSTALL 69LF 8"0 HDPE STORM DRAIN @ 0.4%

CATCH BASIN

GRATE 4308.50 INV. 4305.64

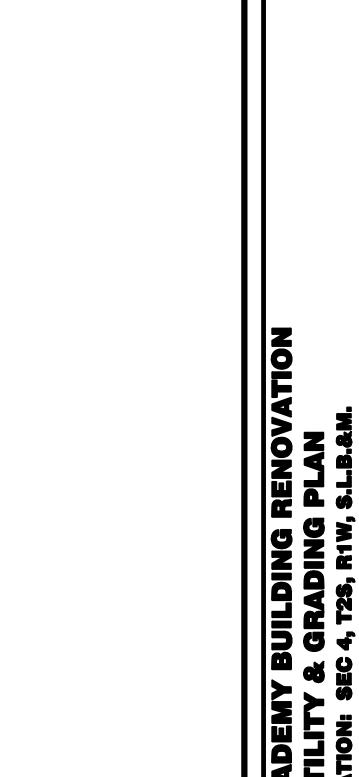
PLAN. MAX. SLOPE 3:1.

SAWCUT INTO EXIST. CATCH BASIN TO-

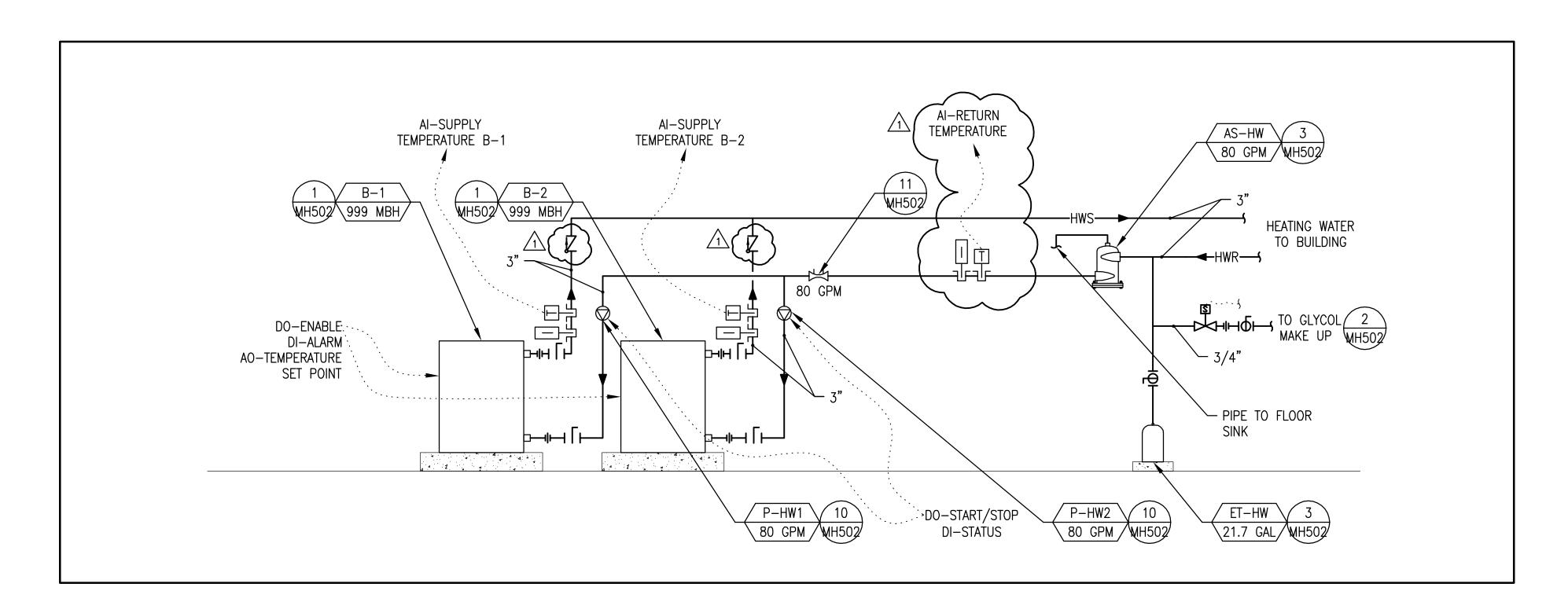
WATERTIGHT CONNECTION, INV 4305.64

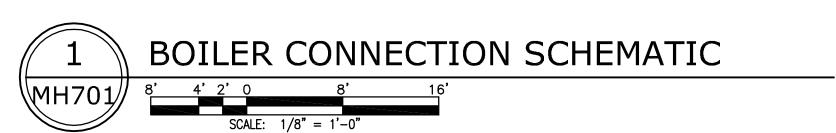
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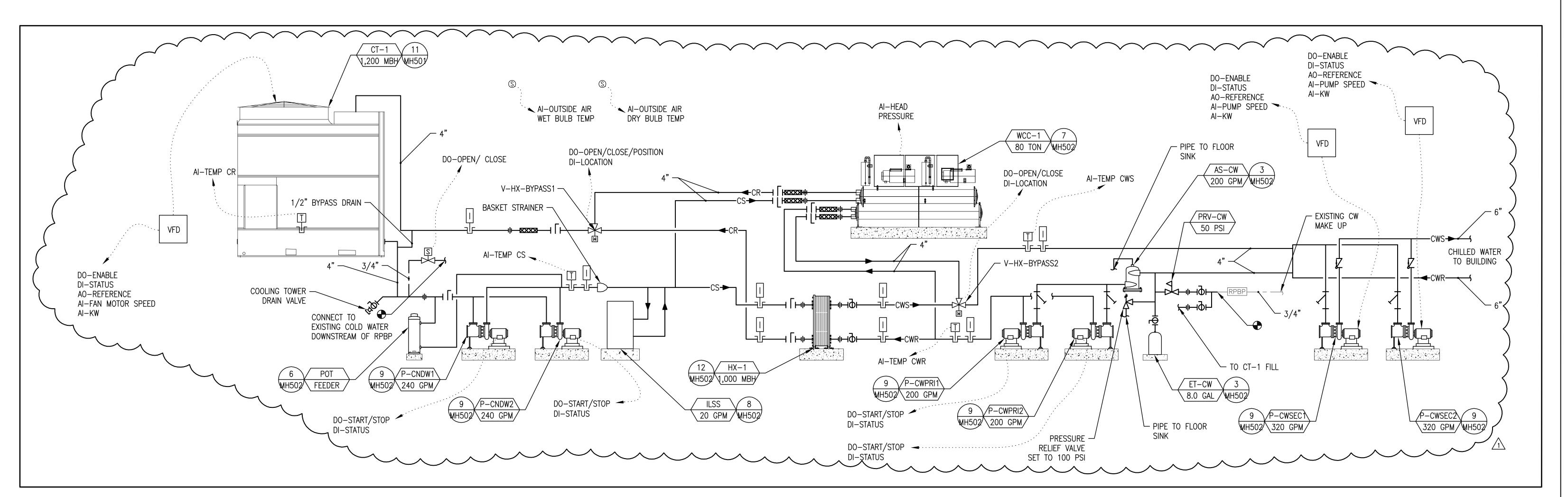
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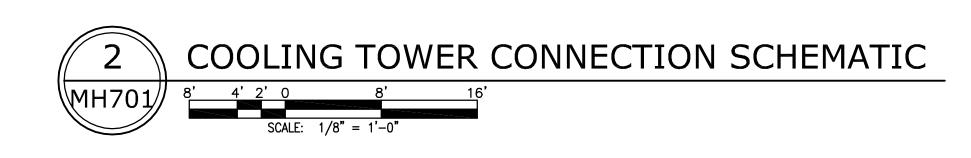














STATE MAIL SERVICES

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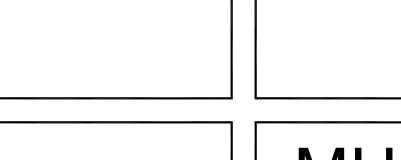
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01/26/09 ADD−2



MECHANICAL PIPING SCHEMATICS MH 701